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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JOHNSON, CONNIE P

ART UNIT

PAPER NUMBER

1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,478	Applicant(s) BIEBER ET AL.	
	Examiner CONNIE P. JOHNSON	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-12 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-12 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The remarks and amendment filed 10/8/2009 have been entered and fully considered.
2. Claims 1-6, 8-12 and 24-26 are presented.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8-9 and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Crawford et al., U.S. Patent No. 4,387,156.

Crawford teaches imaging materials comprising a substrate, a metal/metal oxide layer and a photoresist applied on the metal/metal-oxide layer (col. 2, lines 51-60). The metal/metal-oxide layer is representative of the laser-absorbing layer in the instant invention. The substrate, which is representative of the base layer, comprises an organic polymer material, such as polycarbonate (col. 3, lines 67-68) and polyethylene terephthalate, which are ink-accepting polymer materials (column 7, example 1-line 52) (instant claims 24 and 25).

Crawford teaches in example 1 that the metal/metal oxide layer comprises aluminum/aluminum oxide (column 7) (instant claim 2). The aluminum/aluminum-oxide layer has a thickness in the range of 15 Angstroms to 5×10^4 Angstroms (0.0015

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microns to 5 microns), which is inclusive of the claimed range 0.02 to 0.6 microns (col. 4, lines 44-46) (instant claim 6).

Crawford also teaches the metal/metal-oxide forms a graded layer by vapor deposition (col. 5, lines 27-30) and may be metal in metal-oxide or metal-oxide in metal with a homogeneous or anisotropic dispersion which transitions between higher metal/metal oxide ratios to regions of relatively lower ratios of metal/metal-oxide (col. 3, lines 1-21). Therefore, Crawford meets the limitation of “wherein said laser-absorbing layer has a gradient solid dispersion of metal and metal-oxide, forming varying concentration ratios of the metal and the metal oxide throughout a thickness of said laser-absorbing layer” (instant claims 1 and 4).

Example 1 discloses a vapor coating of aluminum/aluminum-oxide on a biaxially oriented polyester substrate, wherein oxygen is fed into a vapor coater in a less than stoichiometric equivalence wherein mostly pure aluminum is directly in contact with the substrate (polyester film in example 1) (example 1, lines 46-50 and 52-56). Therefore, Crawford teaches that the metal/metal-oxide layer has a non-stoichiometric ratio such that there are more metal atoms than the stoichiometric ratio (instant claim 3) and that the non-stoichiometric ratio is bi-directional (instant claim 5).

Further, the example 1 in Crawford teaches the portion of the coating in direct contact with the polyester film (bottom of metal/metal-oxide layer) has more pure aluminum atoms, whereas the top portion of the metal/metal-oxide layer has more alumina (aluminum oxide) (col. 7, lines 60-63). Therefore, Crawford teaches the limitation, “that the concentration ratio of the metal to metal oxide within the laser-absorbing layer is higher than the concentration ratio of the metal to metal oxide at both

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edges of the laser-absorbing layer,” wherein the edges of the laser-absorbing layer are the top and bottom of the metal/metal-oxide layer (specification, page 9, lines 25-27) (instant claim 1).

The recitation in claim 1, “so that less energy is needed for ablating the laser-absorbing layer than would be needed for ablating a laser-absorbing layer not having the gradient of concentration ratios but having about the same thickness and constituents than that of the laser-absorbing layer” is intended use and does not add patentable weight to the claim. Applicant is reminded of MPEP 2106 regarding intended use.

Crawford teaches imaging material that is curable by UV radiation (examples 2 and 3) (instant claim 9).

The photoresist composition in example 3 is developed in an aqueous solution to remove the unexposed portion of the photoresist. Therefore, the photoresist layer is ink-repelling (instant claim 8).

Crawford teaches an imaging composition comprising a substrate (base layer) with a vapor deposited grated aluminum/aluminum-oxide layer applied thereon and a photoresist layer over the aluminum/aluminum-oxide layer, wherein the photoresist is ink-repelling and the substrate comprises ink-accepting polymer material. Therefore, the imaging composition of Crawford is “capable of being imaged such that selective areas of said coating layer and of said laser-absorbing layer are removed to expose said base layer,” as recited in instant claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 10, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford et al., U.S. Patent No. 4,387,156 in view of Goto et al., U.S. Patent No. 6,777,156 B1.

Crawford teaches imaging materials comprising a substrate, a metal/metal oxide layer and a photoresist applied on the metal/metal-oxide layer (col. 2, lines 51-60). The metal/metal-oxide layer is representative of the laser-absorbing layer in the instant invention.

Crawford also teaches the metal/metal-oxide forms a graded layer by vapor deposition (col. 5, lines 27-30) and may be metal in metal-oxide or metal-oxide in metal with a homogeneous or anisotropic dispersion which transitions between higher metal/metal oxide ratios to regions of relatively lower ratios of metal/metal-oxide (col. 3, lines 1-21). Therefore, Crawford meets the limitation of “wherein said laser-absorbing layer has a gradient solid dispersion of metal and metal-oxide, forming varying concentration ratios of the metal and the metal oxide throughout a thickness of said laser-absorbing layer” (instant claim 1).

Further, the example 1 in Crawford teaches the portion of the coating in direct contact with the polyester film (bottom of metal/metal-oxide layer) has more pure aluminum atoms, whereas the top portion of the metal/metal-oxide layer has more alumina (aluminum oxide) (col. 7, lines 60-63). Therefore, Crawford teaches the limitation, “that the concentration ratio of the metal to metal oxide within the laser-

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absorbing layer is higher than the concentration ratio of the metal to metal oxide at both edges of the laser-absorbing layer,” wherein the edges of the laser-absorbing layer are the top and bottom of the metal/metal-oxide layer (specification, page 9, lines 25-27) (instant claim 1).

The recitation in claim 1, “so that less energy is needed for ablating the laser-absorbing layer than would be needed for ablating a laser-absorbing layer not having the gradient of concentration ratios but having about the same thickness and constituents than that of the laser-absorbing layer” is intended use and does not add patentable weight to the claim. Applicant is reminded of MPEP 2106 regarding intended use.

Crawford teaches an imaging composition comprising a substrate (base layer) with a vapor deposited graded aluminum/aluminum-oxide layer applied thereon and a photoresist layer (coating layer) over the aluminum/aluminum-oxide layer, (col. 7) wherein the photoresist is ink-repelling and the substrate comprises ink-accepting polymer material. Therefore, the imaging composition of Crawford is “capable of being imaged such that selective areas of said coating layer and of said laser-absorbing layer are removed to expose said base layer,” as recited in instant claim 1. Crawford does not teach a form film nor a primer layer on the photoresist layer.

Additionally, Goto teaches an imaging material comprising a substrate and heat-sensitive layer. The printing plate also comprises a primer layer (col. 14, lines 4-6) and a protective film that has a polymer material, such as polypropylene (col. 14, lines 63-67). Polypropylene films have low surface energy as claimed (applicants' specification, page 4-line 27). It would have been obvious to one of ordinary skill in the art to use a primer layer on the imaging material of Crawford to improve adhesion between the substrate

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and the photoresist layer. Further, it would have been obvious to one of ordinary skill in the art to use the protective film in the imaging material of Crawford because protective films are conventionally used to protect imaging layers.

7. Claims 1 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford et al., U.S. Patent No. 4,387,156 (above) in view of Goto et al., U.S. Patent No. 6,777,156 (above) B1 and further in view of Nishida et al., U.S. Patent No. 5,417,164.

Crawford teaches an imaging material comprising a substrate, an aluminum/aluminum oxide layer on the substrate and a photoresist as relied upon above. Crawford does not teach that the coating layer comprises a silicon epoxy oligomer.

Additionally, Nishida teaches a printing material comprising a substrate, recording layer and a coating film applied on the recording layer. The recording layer comprises ink-repelling material, such as a silicon epoxy polymer (col. 7, line 2). It would have been obvious to one of ordinary skill in the art to use a silicon epoxy polymer in the photoresist of Crawford because silicon polymers, such as a silicon epoxy polymers and silicon acrylate polymers increase ink-repelling properties of the radiation-sensitive layer as taught by Nishida (col. 6, lines 60-67 and col. 7, lines 1-12).

Response to Arguments

8. Applicant's arguments filed 10/8/2009 have been fully considered but they are not persuasive.

9. Applicant argues that the metal/metal oxide layer of Crawford is not laser-absorbing or one that ablates under laser radiation.

Crawford teaches the metal/metal oxide layer comprises metal and metal-oxide combinations (see column 7, example 1). Applicant discloses the same metal/metal oxide combinations in instant claim 2 in a layer under the coating layer that is capable of absorbing laser light. Therefore, it is expected that the metal/metal oxide layer of Crawford absorbs laser light, absent any evidence to the contrary. With regards to the argument of Crawford not teaching a layer that is ablatable by laser, applicant has not claimed a layer ablatable by laser radiation.

10. Applicant argues that the construction of the laser-absorbing layer in the Crawford reference increases adhesion and therefore would require even more energy than what would otherwise be expected to detach the laser-absorbing layer from the substrate.

Applicant only claims a lithographic printing member with particular components. Applicant has not claimed energy required to remove the laser-absorbing layer.

11. Applicant argues that Crawford does not teach a top layer and base layer with different affinities for ink.

Polycarbonate and polyethylene terephthalate are ink accepting polymers (applicants' specification, page 7, lines 13-16). Crawford teaches polyethylene terephthalate and polycarbonate as suitable substrates. The polymer resins in the top layer (photoresist layer) are water-soluble copolymers in the photoresist layer, such as butyl acrylate/methyl acrylic acid (examples 1 and example 4). Therefore, the substrate and top layer have different affinities for ink.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Connie P. Johnson whose telephone number is 571-272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Connie P. Johnson/
Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795